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General Questions

Skills & Training

- What skills and experience do you recommend for someone pursuing this career path?
- What skills learned in graduate school have been the most helpful?
- What skills, not necessarily taught in graduate school, are the most helpful for this career (creativity, emotional distancing, emotional involvement, language/communication, manual dexterity, leadership, physical ability, persistence, social skills, time management, logic/reasoning, negotiation, etc.)?
- Are there additional education requirements, degrees, licenses that are needed for your career?
- What are the three things that you wish you did when a graduate student to better prepare you for your career?
- How important was your post-doc in obtaining your current position? Is there a particular type of postdoctoral position you would recommend?

Career Decision

- Why did you choose this career?
- How would someone know if this career is best for him or her?
- What do you wish you knew (but didn't) when you first contemplated this career? What are the three things that you wish you knew when a graduate student before choosing your career?
- Would you choose this career if you could make the decision again?
- What (if anything) might you do differently? What are common mistakes people make choosing this career?
- Did you follow your original career plan or have life events guided you to where you are now?
- Does choosing an atypical or "alternative" career path limit a person's career opportunities?
- If you could leave us with one piece of advice, what would it be?

Career Transitions

- What steps should someone take today to transition into this career path?
- What are the best opportunities available to people entering this career? How does someone create opportunities for pursuing this career path? Suggestions for gaining experience?
- What was the most difficult transition in your career? What factors are important to consider when transitioning from graduate school? Transitioning between jobs? Transitioning between careers?

Job Search

- **Popular topic in student survey:** Suggestions for job searching with spouse? In different fields? In same field? Advice for coordinating careers?
- What types of applicants are most successful at entering this career?
- What type of postdoctoral position, if any, would you recommend for pursuing a similar career path?
- Are there related or similar careers you recommend?
- Where can someone find more information about this career (i.e., associations, on-line)?
- How does someone identify a position that matches their skills?

- What skills and attributes do you look for most in a CV?

Outlook

- What is the outlook for this career? How do you see the jobs in this field changing over the next five years? What can someone do to prepare for such changes?
- Is there a shortage or oversupply of people in this career today?
- Are there any trends (e.g. demographic, social, legal) that concern you? Any trends that will make this career choice more or less attractive in the future?

General Employment

- How many people are employed within your organization? How many people are employed within your department?
- What's your impact in your current position? To your company? To science? To human health?
- What's your least favorite part about your job?
- What is the work culture like in your current job?
- Is most of your time spent working independently or collaboratively?
- What's the strangest thing you've ever done in your job?
- What are the most and least rewarding aspects of your job?
- Are there opportunities to travel?
- What about flexible scheduling, telecommuting, and alternate work schedules?
- Biggest myth about your job?

Work/Life Balance

- What is a typical "Day in Your Work Life" like?
- **Popular topic in student survey:** How is balance between work and family? Time for children? Family leave?
- Do you notice challenges specific to women or minorities in your career? Is there still a 'glass ceiling' for either group?

Challenges

- What are the biggest challenges in your job?
- What's the first 60 days like? Steep learning curve?
- What would you be doing right now if you weren't here? What's the most exciting minute of your job?
- What are the working conditions like (stress, pace, physical comfort, travel, environment, relocation, hours, routine vs. crisis, etc.)?

Further Career Development

- Where do you turn for mentorship and advice?
- Opportunities in different cities, state, or countries?
- What are the additional career opportunities through your current job? How do you recognize a worthwhile opportunity?
- Can someone progress at his or her own pace, or is the career path structured?

Financial

- What are the financial benefits?
- How much money does this career provide at the entry level? After you work for 10 yrs.?
- Maximum potential for most talented/experience people? How much of the \$\$ is usually base pay, bonus (performance driven), profit sharing, stock/partnership ownership, etc.?

Science Writing, Editing & Communication

Panel: Deirdre Lockwood

Chair: Anna Mapp

Description: Do you enjoy explaining your work, and science in general, to non-scientist friends more than working in the lab? Though no longer at the bench, science communicators still enjoy a career that satisfies their intellectual restlessness. They report on science trends, discoveries, personalities, and policies, often from the lab or in the field. Careers in science communications run the gamut from editing primary scientific papers to communicating findings to the general public and utilizing social media to highlight the latest discoveries. This session will discuss the range of career options available to science communicators and how to acquire the required skills and experience to become a successful science communicator.

Session-specific questions:

- What research or science skills translate best to a career in science writing?
- Is there a "standard" path to become a science writer? Or mostly serendipity?
- How much does this field overlap with science policy? Surely, some science that you report on has great ethical and social implications.
- What are the differences and similarities between communicating science to the general public, and making editorial decisions about what science to publish in a journal?

Science Policy

Panel: Dorothy Zolandz (National Academies of Sciences)

Chair: Laura Kiessling

Description: A career in science policy offers a broad range of opportunities within a variety of settings including academia, think tanks, government agencies, private sector, and nongovernmental organizations. Science policy professionals use their scientific knowledge and their analytical and communication skills to influence the course of scientific research, prioritize research goals, guide funding allocation, summarize scientific findings, and ultimately impact public health. This session will feature a panelist who will share her experiences in the policy arena and provide advice on how to transition to a career in science policy.

Session-specific questions:

How to transition to a career in science policy:

- Most of the skills from graduate school are limited to techniques learned at the bench, critical thinking and the ability to synthesize information, how does someone transfer these to a career in science policy.
- Are jobs mostly in the DC area?
- Is an internship more advantageous than a postdoctoral position? Are there internships you might recommend with professional groups, non-profit organizations, or congressional offices? How does someone find these?
- How hard is it to bridge the gap between science, politics and the general public?.
- How frustrating is it that policymakers do not understand much science?
- Policy makers like a clearly defined cause and effect relationship, how do you deal with topics that aren't easily described in these terms?
- How do you get a sense of what the scientific community would like to promote?

Law, Consulting, & Intellectual Property

Panel: Dave Austin (Morrison & Foerster), TBD (McKinsey Consulting), & TBD

Chair: Mark Distefano

Description: Moving into the business side of biotechnology via law, consulting, and intellectual property allows you to directly influence the direction of science without having to stay at the bench. In all business positions one must be able to successfully use his/her expertise to quantify risks and rewards of creating and maintaining various biotechnologies. This session will help identify specific skills needed to be successful in these fields as well as how might to acquire them.

Session-specific questions:

- Is postdoctoral experience recommended?
- How often are you the only “science person” in the room? How much of your job is explaining complex scientific concepts to non-scientists?
- Does leaving the lab mean abandoning science?
- Can it be difficult to manage clients with various personalities?
- Do you recommend pursuing an internship as stepping-stone for a permanent position?
- A PhD has very focused scientific knowledge, but one might think a broad science-based knowledge is better. How difficult is it to adapt?
- Is this career better for someone who like to work independent or collaboratively?

Consulting-specific questions:

- Is it common for consultants to leave the firm to work for one of their former clients?
- There are stories about the difficulty of the interview process – are they true?
- Due to the intensity of the work, how often do people move on to a different job?
- What research and/or science skills best translate into a career in consulting?

Law-specific questions:

- Do I need to go to law school? Do law firms hire PhDs without a JD? Do you recommend someone working as a technology specialist?
- What is the difference between a patent lawyer and a patent agent?
- What is a typical day of work for a patent attorney or agent?
- What legal careers are available for someone with a science background? Are most opportunities just writing patents?
- If considering a career in law, do you recommend applying to law school while in graduate school? Which law school should I attend? Which classes should I take in law school to enhance an intellectual property career? What is the pass rate for the patent bar exam?
- How much money do patent agents and attorneys make?

Government

Samantha Arnett (U.S. Department of State)

Chair: Barbara Gerratana

Description: The U.S. government offers a wide variety of career paths from regulatory science (FDA), to grants management (NIH and NSA), to science policy, to public health (CDC), to patents/tech transfer (USPTO), to justice (DEA), and to bioterrorism (FBI). This session will feature a panelist who will speak on working in the government, a path taken to this destination, and desirable training and career steps looked for to enter into government service.

Session-specific questions:

- Are most jobs in the DC area?
- What is the application and interview process like? Do all applications go through USAjobs.gov?
- What are the major factors in the hiring decision?
- Is Federal employment similar across different agencies? Or very different? Is it difficult or hard to transfer between agencies? Are interagency temporary work placements available?
- How difficult is it to find satisfaction in your job – when taxpayers and politicians are so critical of federal employees? Are politicians difficult to work with?
- There seems to be many different agencies with jobs related to chemical weapons and bioterrorism? Is there synergy among all the agencies or does each hire their own experts? How does someone become an expert?
- Is it easy to transition from the private sector to Federal service? Is it common for Federal employees to transition back to the private sector?
- Federal employment job security – does anyone get fired? Do you need to wait for the person above you to retire in order to advance?
- Do most government employees only work forty hours per week?
- Training opportunities? Travel opportunities?

Entrepreneur

Laura Strong (Quintessence Biosciences) & Reena Zutshi (Luceome Biotechnologies)

Chair: Miles Fabian

Description: Many scientists strive to have their ideas become successful business ventures. A successful entrepreneurial career is a challenging path to take, but the result could be very rewarding and high impact. Additionally, scientists often wonder what it is like to work in a small start-up company. This session will combine entrepreneurs who started their own business with researchers who took the risk of joining an early stage company.

Session-specific questions:

- What skills and traits are necessary to become a successful entrepreneur?
- What are the different aspects of the job? It seems like this profession in particular might necessitate being a jack-of-all-trades.
- What is a business plan? What's makes a good plan?
- What do you have to consider from the business, science, legal and marketing standpoints when starting a business venture?
- What are the financial challenges to starting a business? What are the first steps someone should take once they have a good idea for a business or product?
- How do you get capital to start a business? Are venture capitalists vultures?
- What makes for a successful venture?
- What happens if your business fails? Do you worry about failure?
- If you could offer a first-time entrepreneur only one piece of advice, what would it be?
- When will you consider your job a success?

Employment

- What types of people do you have to work with, and hire?
- Is it better to hire expertise in a specific area or focus on smart people?
- What creative things do you do to develop a likeable company culture?
- Besides salary, how are employees compensated? Stock options?
- How does someone identify jobs at a start-up? How can you tell a good job in a start-up from a bad one? Would you recommend a drug discovery venture (high-risk, high reward) or a service company?

Research Careers in Large vs. Small Companies

Panel: Chris O'Donnell (Pfizer), Les Miranda (Amgen) & Tonia Buchholz (Onyx Pharmaceuticals)

Chair: Tom Prisinzano

Description: Working at the bench in industry for a large versus a small company can be two extremely divergent experiences. Understanding the differences will ensure the best fit for your strengths and what you value in your work. Panelists for this session will describe their working environment and how it may or may not be a good fit for you.

Session-specific questions:

- What's the job outlook for Chemistry PhD students?
- What areas of chemistry are most valued by large companies? Small companies?
- What is the hiring process at your company?
- What is the best way to find out about research opportunities in large and small companies? How important is networking or 'connections' to this process?
- If someone wants to work in the biotech industry, do they have to move to one of the large coastal hub areas like Boston or San Francisco?
- Is there an opportunity to be mentor or be mentored? Or survival of the fittest?
- Can you describe differences in work culture at small and large companies?
- What do you enjoy most about working for a large or small company? What do you like and dislike about it?
- What does a new employee need to accomplish in the first 6 months to demonstrate they met expectations?
- Important to be seen/heard?
- Is research the priority? Or are small company acquisitions replacing research in large companies?
- How is the opportunity for recognition and rapid advancement?
- Can you attend conferences and publish papers? Is this important?
- Is constant change the norm in a small company?
- Is it true that large companies hire experts, not potential? Or is a broad set of skills valued? Is it best to focus on a depth of expertise in a particular area?
- In a large company is it easy to be pigeonholed into a specific job function?
- How is a person's value to the company measured?
- How frequently are employees required to relocate and/or travel?
- How difficult is it to move between industry, government, and academia if you want to change careers?

Being an Attractive Candidate to Industry

Panel: Brian Fahie (Eli Lilly)

Chair: Brian Fahie

Description: A senior executive highlighting what factors industry considers during a search for top Ph.D. level candidates. The panel provides an insider's view on how to translate your academic experience into industry terms. The discussion will cover how to position yourself to secure a vibrant career in chemistry.

Session-specific questions

- What kind of document do you send a company, a CV or a Resume?
- What do you need to know to interview successfully by telephone?
- What advice can you give about interviewing successfully in person?
- What do you do if you are asked about salary expectations in an interview?
- Would you recommend working with a recruiter or service to find a job? Who should pay a recruiter's fees?
- What skills and/or training do you think will be extremely valuable in the next ten years (analytical skills, MBA, FDA compliance experience, etc.)?
- What to do if you get laid off?
- Advice for applying for other jobs when already employed?

Industrial Careers

Panel: Simon Shannon (3M Company) & Juan Velasquez (Procter & Gamble)

Chair: Brian Bachmann

In industry, the incentive of the work done at the lab bench is not a publication, but rather the desire to take a product or process from the research laboratory to the commercial market. This transition is a complex process. The industry panel represents different facets of this process. Speakers will discuss the development of a new product from the decision to pursue commercialization through project management, working environment, financial success and what led them to pursue this career path.

Session-specific questions

- What does an entry level PhD position look like? What duties are required for the position?
- How do entry-level positions fit into the overall organizational structure?
- What is the typical five-year (or ten-year) trajectory for someone starting in an entry-level position?
- How does the company measure performance?
- How much decision-making authority is given after one year?
- How is it responding to those above and directing those below?
- Is there any job security? How has industry been impacted by the financial downturn?
- Do I need to do a postdoc to work in industry?
- How is the transition from academia to industry?
- Discuss projects. How they are selected? How are deadlines determined?

Postdoctoral Research

Panel: Miles Fabian (NIH/NIGMS), Brian Fahie (Eli Lilly) , additional participants

Chair: Miles Fabian

Description: A special kind of hell or a career defining career opportunity? Postdoctoral positions are a common, and often necessary, interlude between graduate study and regular employment. The experiences and training gained from a postdoc can shape the rest of your career. Yet it can be challenging to find out even the most basic information about such opportunities. Panelists will describe a variety of available options and discuss how to identify and secure those best for your career path.

Session Format

Academic Postdocs (Raines)

- What exactly is the point of doing a postdoc?
- Where should it be and how to get there? How does someone choose a postdoctoral advisor?
- Who's paying the tab?
- What makes for a good one, as opposed to a waste of time and an aggravation?
- What should someone expect to get out of it?
- How does an advisor select postdoctoral candidates?

Industrial postdoctoral positions

- Eli Lilly (Fahie)
- Pfizer (O'Donnell)
- Amgen (Miranda)
- Merke (Weber)
- 3M (Shannon)
- Procter & Gamble (Velasquez)

Institute Postdocs

- NIH Campus (Apella)
- Janelia Farm (Lavis)

Fellowships

- AAAS Fellowships (Arnett)
- NIH (Fabian, Giedroc, Chang)
- Damon Runyon-Walter Winchell (Distefano)
- American Cancer Society (Hergenrother)

Session-specific questions:

- How to identify a postdoctoral position
- What does someone need to do at a postdoctoral interview? Who should pay the interview expenses?
- Advantages of an industrial postdoc?
- A postdoc is not working out. The project does not seem to be going well, or they're not getting along with my PI. Should they leave?
- How will someone's career be affected if they do a second postdoctoral fellowship?

Science Education

Panel: Bowman (University of Wisconsin)

Chair: Julia Schwartzman

Description: High quality science teachers can go a long way towards making science fun and exciting rather than boring or daunting. Even students bound for careers outside of science can benefit from critical thinking and data analysis skills developed through a strong science education. This panel will showcase a science education career at the undergraduate level, developing educational materials, and managing outreach programs.

Session-specific questions

- Is normal training in education necessary?
- What's the best teaching experience?
- Any advice for those interested without having taught in a classroom?
- How much time is spent developing educational materials?
- How are online resources changing the classroom?
- Is postdoctoral experience necessary or can somebody just jump in?
- What might someone do to improve his or her teaching credentials?
- Is it important to have a distinct teaching philosophy?

Academic Career: Teaching- vs. Research-intensive Institutions

Panel: Daniel Appella (NIH), Kimberly Dickson (Lawrence University), Luke Lavis (Janelia Farm), & TBD

Chair: Laura Kiessling

Description: An important question to consider when choosing an academic career path is “What type of academic institution and environment will best suit me?” The academic sector offers a wide range of experiences from teaching at a small liberal arts college to research- or teaching- oriented faculty positions at large universities and medical schools. This session will explore the expectations, challenges, and rewards of different academic environments and panelists will describe how they chose their individual career paths.

Session-specific questions:

Graduate School – Postdoctoral Research

- When is someone independent of their advisor – when to go on the job market?
- Do you need a high impact publication (Science, Nature)?
- How important is it to have received a grant/fellowship?
- How does someone demonstrate research independence from graduate/postdoctoral advisor?

Job search & interview

- How do you get noticed in the crush of 300 talented applicants?
- With schools receiving so many applications per opening, should I just apply everywhere and let fate choose for me?
- How does someone identify open positions?
- What should someone ask (or know) when interviewing for tenure-track positions?
- What should a research proposal look like? What defines a good research project? What are good general topics?
- Some applications require special sections, such as a teaching philosophy. Any advice?
- How important is it to research the faculty where I’m interviewing?
- What’s the strangest thing that happened to you when interviewing?
- How can someone distinguish themselves from other candidates?
- What if a spouse is also looking for a position? Both are scientists. How do they find someplace with jobs for both of them?
- How can someone find out the tenure/retention rate of faculty? Is it important to consider this?
- Is it good to negotiate the start-up package? What about lab space?

Teaching intensive institution

- Work-Life
- What's the best next step after graduate school for a career teaching in a liberal art environment?
- Requirements to get tenure at a liberal arts college,

Research intensive institution

- Funding situation. Are grants getting harder to get?
- How do you choose a good research project?
- What’s should be the goal of your research? What limitations are there besides funding?
- What are the difficulties with managing a laboratory?

Academic Career: Pre-tenure Years – Research Intensive

Panel: Emily Dykhuizen (Purdue University) & TBD

Chair: Laura Kiessling

Description: Do you enjoy conducting your own research and working with students? Are you considering an academic career path? This session will highlight tenured and tenure-track professors in research-intensive roles who will explain what it is like to work in academia and how to prepare for a positive tenure review. Discussions will range from understanding job qualifications and the search, application, interview and negotiation processes to what resources are made available to assistant professors, what tenure requirements consist of, and how to balance research and teaching obligations.

Session-specific questions

Getting started

- Just landed that perfect job as an assistant professor. What first?
- How do you go about establishing a lab after your postdoc?
- How to go about hiring people? Identifying students?

Institutional guidance and support

- Don't be afraid to ask for help!
- Mentoring. How do you find a mentor?
- How much of your time is protected so you can do your job successfully?

Work-Life

- Family commitments?

Tenure

- How to know requirements for tenure?
- How important is teaching?
- Receiving tenure does not decrease your workload or the expectations placed on you.
- Importance of funding? How important is obtaining a major research grant?
- Is it about being productive or the project?

General

- Challenges & advantages
- What about laboratory space, equipment and support for research?
- What does an annual contract entail?
- How to balance research, teaching, and other obligations: Is it a good idea to say "no" when asked to serve on committees or teach new classes?
- Resources available to assistant professors: